

# FCC Radio Test Report

**FCC ID: XHM-J680L92**

This report concerns (check one) : Original Grant Class II Change

**Project No.** : 1407142A  
**Equipment** : POS  
**Model Name** : J2 680L  
**Applicant** : FLYTECH Technology Co., Ltd.  
**Address** : 1F, No. 168, Sing-Ai Rd., NeiHu District 11494, Taipei, Taiwan

**Date of Receipt** : Jan. 22, 2015  
**Date of Test** : Jan. 22, 2015 ~ Dec. 12, 2016  
**Issued Date** : Dec. 13, 2016  
**Tested by** : BTL Inc.

**Testing Engineer** : Rush Kao  
(Rush Kao)

**Technical Manager** : Jeff Yang  
(Jeff Yang)

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**REPORT ISSUED HISTORY**

Issue No.	Description	Issued Date
BTL-FCCP-1-1407142A	Original Issue.	Dec. 13, 2016

## 1.CERTIFICATION

Equipment : POS  
Brand Name : FLYTECH  
Model Name : J2 680L  
Applicant : FLYTECH Technology Co., Ltd.  
Manufacturer : FLYTECH Technology Co., Ltd.  
Address : 1F, No. 168, Sing-Ai Rd., NeiHu District 11494, Taipei, Taiwan  
Factory : FLYTECH TECHNOLOGY CO., LTD.  
Address : No.36 Huaya 3<sup>rd</sup> Rd., Guishan Township, Taoyuan Country 33383,Taiwan  
Date of Test : Jan. 22, 2015 ~ Dec. 12, 2016  
Test Sample : Engineering Sample  
Standards : FCC Part 15, Subpart C: 2014  
ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc..

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1407142A) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

## 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Standard Section	Test Item	Result
15.207	Conducted emission	PASS
15.35/ 15.205 / 15.209 / 15.225	Radiated emission	PASS
15.225(e)	Frequency Stability	PASS
15.203	Antenna Requirement	PASS
15.215(c)	20dB Bandwidth Test	PASS

NOTE:

1. **N/A:** denotes test is not applicable in this Test Report

## 2.1. TEST FACILITY

The test facilities used to collect the test data in this report:

### Conducted emission Test:

**C05:** No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

### Radiated emission Test:

**CB15:** (FCC RN:674415; FCC DN:TW0659)

No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

## 2.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2  $U_{\text{cisp}}^{\text{r}}$  requirement.

The reported uncertainty of measurement  $y \pm U$ , where expanded uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95 %.

A. Conducted emission test:

Test Site	Measurement Frequency Range	$U, (\text{dB})$
C05	150 kHz~30 MHz	1.94

B. Radiated emission test:

Test Site	Method	Measurement Frequency Range	$U, (\text{dB})$
CB15 (3m)	CISPR	9kHz ~ 150kHz	2.96
		150kHz ~ 30MHz	2.74

Test Site	Method	Measurement Frequency Range	Ant.	$U, (\text{dB})$
CB15 (3m)	CISPR	30MHz ~ 200MHz	V	4.76
		30MHz ~ 200MHz	H	4.28
		200MHz ~ 1,000MHz	V	5.08
		200MHz ~ 1,000MHz	H	4.50

Test Site	Method	Measurement Frequency Range	Ant.	$U, (\text{dB})$
CB15 (3m)	CISPR	1GHz ~ 6GHz	V	4.48
		1GHz ~ 6GHz	H	4.50
		6GHz ~ 18GHz	V	4.30
		6GHz ~ 18GHz	H	4.14

Test Site	Method	Measurement Frequency Range	$U, (\text{dB})$
CB15 (1m)	CISPR	18 ~ 26.5 GHz	4.72
		26.5 ~ 40 GHz	5.20

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our  $U_{\text{lab}}$  values in CISPR 16-4-2 terminology.

Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called  $U_{\text{CISPR}}$ , as follows:

Conducted Disturbance (mains port) – 150 kHz – 30 MHz : 3.6 dB

Radiated Disturbance (electric field strength on an open area test site or alternative test site) – 30 MHz – 1000 MHz : 5.2 dB

It can be seen that our  $U_{\text{lab}}$  values are smaller than  $U_{\text{CISPR}}$ .

### 3. GENERAL INFORMATION

#### 3.1. GENERAL DESCRIPTION OF EUT

Equipment	POS	
Brand Name	FLYTECH	
Model Name	J2 680L	
Model Difference	N/A	
Product Description	Operation Frequency	13.56 MHz
	Antenna Designation	LOOP Antenna
PowerSource	DC Voltage supplied from AC/DC adapter. Brand/Model:Chicony/A11-120P1A	
Power Rating	I/P:100-240V 2A 50-60Hz, O/P:19V 6.32A 120W	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

### 3.2. DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Test Mode	Description
Mode 1	13.56MHz Transmit

Conducted emission test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

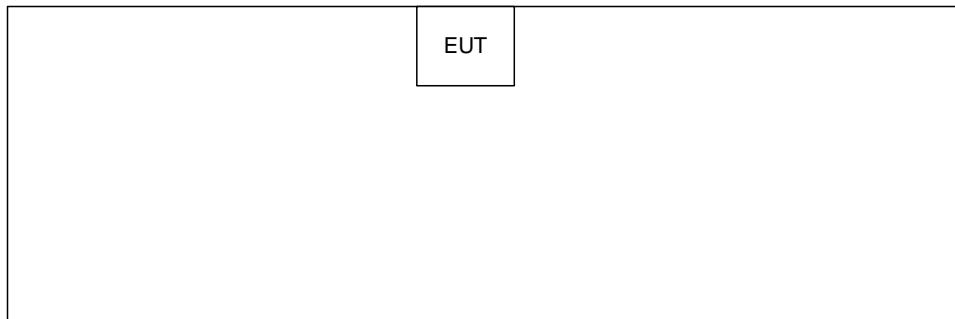
Radiated emission test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

Frequency Stability test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

Antenna Requirement test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

20dB Bandwidth test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

### 3.3. BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



### 3.4. DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
-	-	-	-	-	-	-

Item	Shielded Type	Ferrite Core	Length	Note
-	-	-	-	-

Note:

- (1) The support equipment was authorized by Declaration of Conformity (DOC).

## 4. CONDUCTED EMISSION

### 4.1. LIMITS

FREQUENCY (MHz)	(dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

NOTE:

1. The tighter limit applies at the band edges.
2. The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
3. The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)

Margin Level = Measurement Value – Limit Value

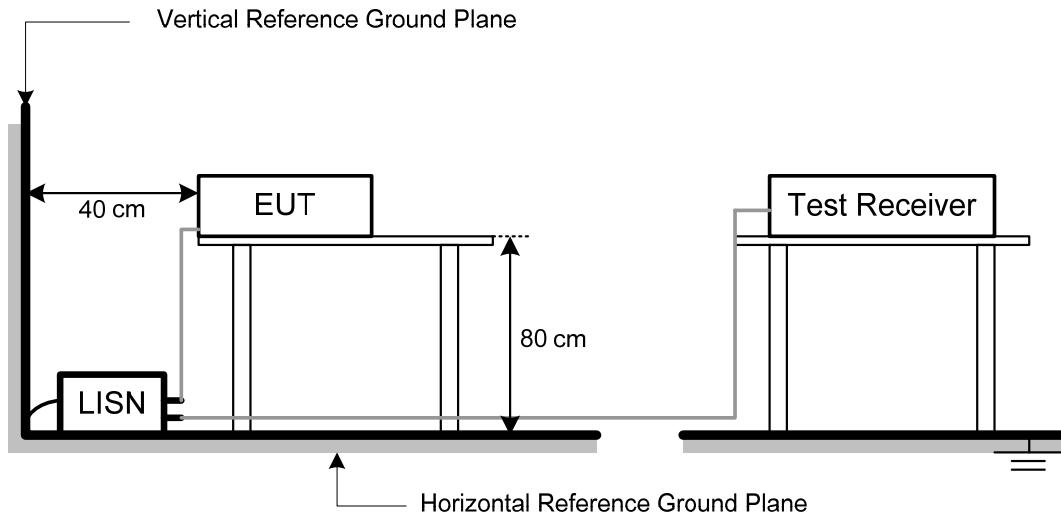
### 4.2. TEST PROCEDURES

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

NOTE:

- a. Reading in which marked as Peak, QP or AVG means measurements by using are Quasi-Peak or Average Mode with Detector BW=9 kHz (6 dB Bandwidth).
- b. All readings are Peak Mode value unless otherwise stated QP or AVG in column of Note. If the Peak or QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only Peak or QP Mode was measured, but AVG Mode didn't perform.

### 4.3. TEST SETUP LAYOUT



#### 4.4. DEVIATION FROM TEST STANDARD

## No deviation

## 4.5. EUT OPERATING CONDITIONS

The EUT used during radiated and/or conducted emission measurement was designed to exercise in a manner similar to a typical use.

## 4.6. EUT TEST CONDITIONS

Temperature: 24°C

Relative Humidity: 60%

Test Voltage: AC 120V/60Hz

## 4.7. TEST RESULTS

Please refer to the Attachment A.

### Remark

(1) All readings are QP Mode value unless otherwise stated AVG in column of 『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform in this case, a “\*” marked in AVG Mode column of Interference Voltage Measured.

(2) Measuring frequency range from 150KHz to 30MHz.

## 5. RADIATED EMISSION

### 5.1. LIMITS

FCC Part 15.209				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
0.009 – 0.490	2400 / F(KHz)	300m	10000* 2400/F(KHz)	20log 2400/F(KHz) + 80
0.490 – 1.705	24000 / F(KHz)	30m	100 * 24000/F(KHz)	20log 24000/F(KHz) + 40
1.705 – 30.00	30	30m	100* 30	20log 30 + 40
30.0 – 88.0	100	3m	100	20log 100
88.0 – 216.0	150	3m	150	20log 150
216.0 – 960.0	200	3m	200	20log 200
Above 960.0	500	3m	500	20log 500

FCC Part 15.225(a)/(b)/(c)				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
13.553 – 13.567	15,848	30 m	15,848*100	124
13.567 – 13.710	334	30 m	334*100	90.5
13.110 – 13.410	106	30 m	106*100	80.5
13.710 – 14.010				

#### NOTE:

- (1) The tighter limit shall apply at the boundary between two frequency range.
- (2) Limitation expressed in dBuV/m is calculated by 20log Emission Level (uV/m).
- (3) If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula of  $L_{d1} = L_{d2} * (d_2/d_1)^2$ .

Example:  
F.S Limit at 30m distance is 30uV/m , then F.S Limitation at 3m distance is adjusted as  $L_{d1} = L_1 = 30uV/m * (10)^2 = 100 * 30 uV/m$

- (4) The test result calculated as following:  
Measurement Value = Reading Level + Correct Factor  
Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)  
Margin Level = Measurement Value – Limit Value

## 5.2. TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- c. The initial step in collecting radiated emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- d. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

**NOTE: (FCC PART 15.209)**

- a. Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode with Detector BW=120 kHz.
- b. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.

**NOTE: (FCC PART 15.225)**

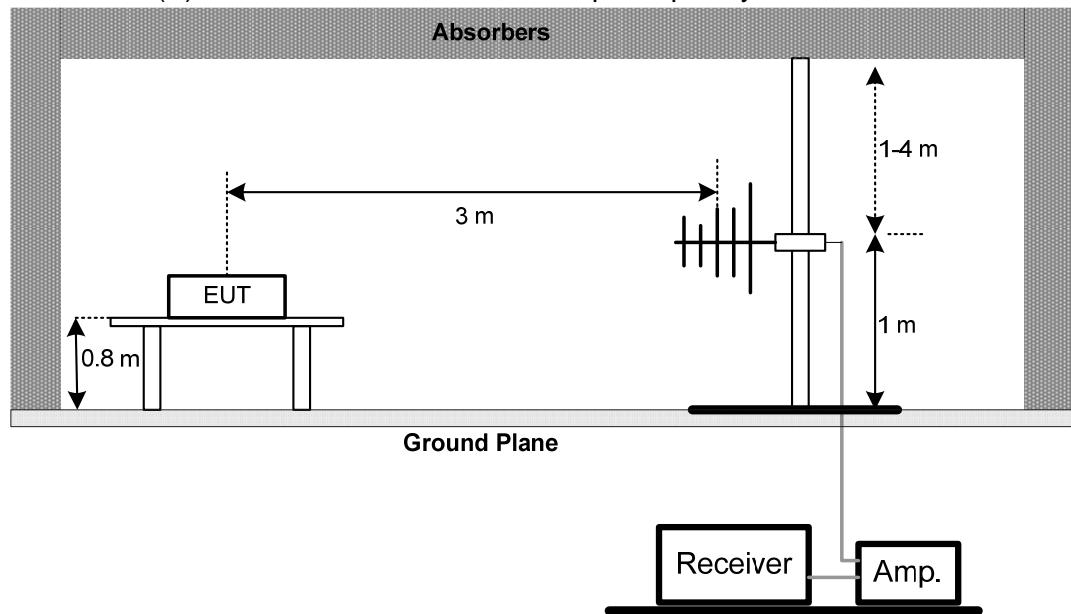
- a. Spectrum Setting:  
9 KHz – 150 KHz, RBW= 200Hz, VBW=200Hz, Sweep time = 200 ms.  
150 K Hz – 30 MHz, RBW= 10 KHz, VBW=10 KHz, Sweep time = 200 ms.  
30 MHz – 1000 MHz, RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms.
- b. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- c. The Log-Bicon Antenna will use to test frequency range from 30MHz to 1000MHz and the Loop Antenna will use to test frequency below 30MHz.

### 5.3. DEVIATION FROM TEST STANDARD

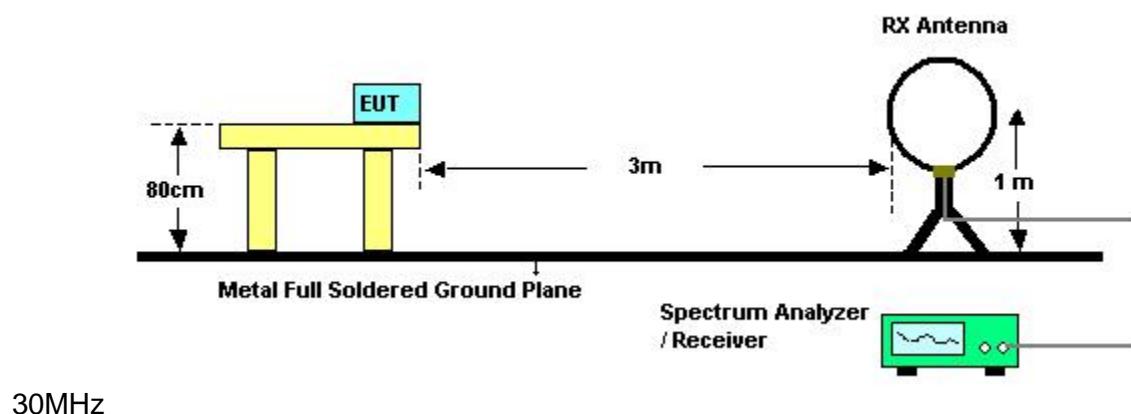
No deviation

### 5.4. TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) For radiated emissions below



### 5.5. EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.6 Unless** otherwise a special operating condition is specified in the follows during the testing.

## 5.6. EUT TEST CONDITIONS

Temperature: 25°C  
Relative Humidity: 60%  
Test Voltage: AC 120V/60Hz

## 5.7. TEST RESULTS (BELOW 30MHZ) - FCC PART 15.209

Please refer to the Attachment B.

## 5.8. TEST RESULTS -(30-1000MHZ) - FCC PART 15.209

Please refer to the Attachment C.

## 5.9. TEST RESULTS- FCC PART 15.225

Please refer to the Attachment D.

## 6. FREQUENCY STABILITY

### 6.1. LIMITS

#### FCC Part 15.225(e)

The frequency tolerance of the carrier signal shall be maintained within +/-0.01% of the operating frequency over a temperature variation of - 20 degrees to + 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

For battery operated equipment, the equipment tests shall be performed using a new battery.

### 6.2. TEST PROCEDURE

- a. The equipment under test was connected to an external AC power supply and the RF output was connected to a frequency counter via feed through attenuators. The EUT was placed inside the temperature chamber.  
After the temperature stabilized for approximately 20 minutes, the frequency of the output signal was recorded from the counter.
- b. At room temperature ( $25\pm5^{\circ}\text{C}$ ), an external variable AC power supply was connected to the EUT. The frequency of the transmitter was measured for 115%, 100% and 85% of the nominal operating input voltage.

### 6.3. DEVIATION FROM TEST STANDARD

No deviation

### 6.4. EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.5. Unless otherwise a special operating condition is specified in the follows during the testing.

### 6.5. EUT TEST CONDITIONS

Temperature:  $25^{\circ}\text{C}$

Relative Humidity: 62%

Test Voltage: AC 120V/60Hz

### 6.6. TEST RESULTS

Please refer to the Attachment E.

## 7. BANDWIDTH TEST

### 7.1. EST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting: RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

### 7.2. DEVIATION FROM STANDARD

No deviation.

### 7.3. TEST SETUP



### 7.4. EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 7.5. EUT TEST CONDITIONS

Temperature: 25°C

Relative Humidity: 62%

Test Voltage: AC 120V/60Hz

### 7.6. TEST RESULTS

Please refer to the Attachment F.

## 8. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	Jan. 26, 2017
2	Test Cable	TIMES	CFD300-NL	C02	Jun. 15, 2017
3	EMI Test Receiver	R&S	ESR7	101433	Dec. 09, 2017
4	Measurement Software	EZ	EZ_EMC (Version NB-03A)	N/A	N/A

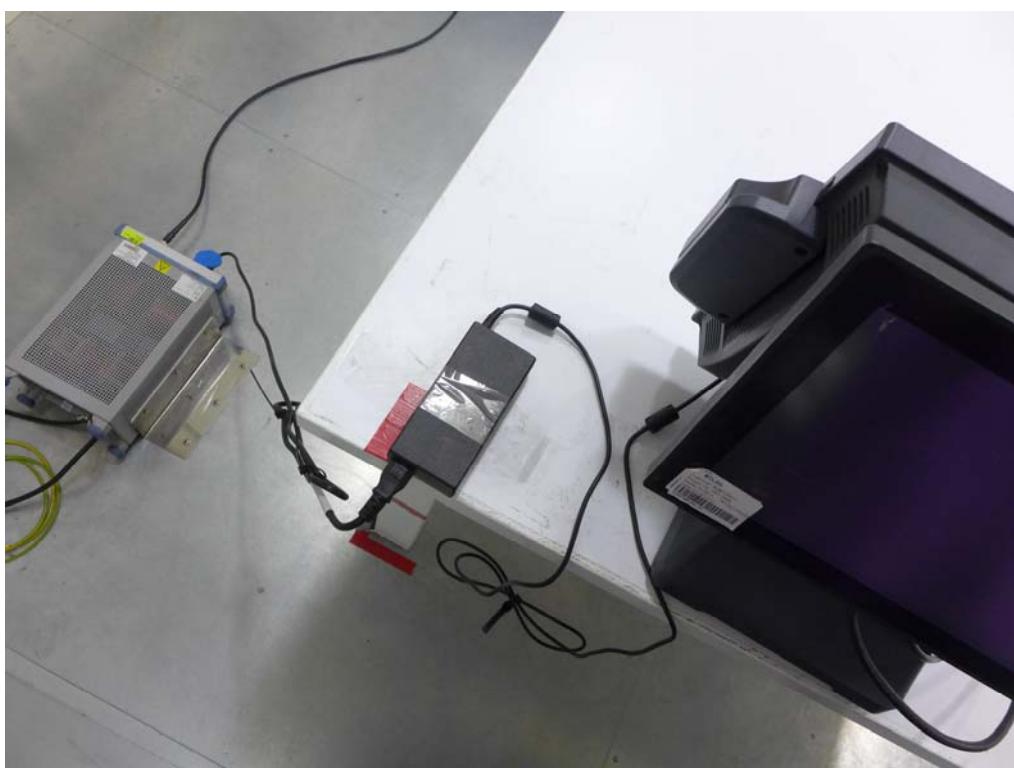
Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB9168-352	9168-352	Feb. 04, 2017
2	Horn Antenna	Schwarzbeck	BBHA 9120	D-546	Nov. 05, 2017
3	Pre-Amplifier	HP	8447D	2944A08891	Mar. 09 2017
4	Pre-Amplifier	Agilent	8449B	3008A02331	Jan. 24, 2017
5	Test Cable	EMCI	EMC8D-NM-NM-8000	150301	Mar. 09, 2017
6	Test Cable	EMCI	EMC104-SM-S M-2500	150303	Mar. 09, 2017
7	Test Cable	EMCI	EMC104-NM-S M-1000	150304	Mar. 09, 2017
8	Test Cable	EMCI	EMC104-SM-S M-5000	150302	Mar. 29, 2017
9	Test Cable	EMCI	EMC104-SM-S M-800	150305	Mar. 29, 2017
10	EXA Spectrum Analyzer	Agilent	N9010A	MY52220990	Feb. 24, 2017
11	EMI Test Receiver	Agilent	N9038A	MY51210215	Jan. 08, 2017
12	Loop Antenna	EMCO	6502	00042960	Nov. 05. 2017
13	Horn Antenna	Schwarzbeck	BBHA-9170	187	May 12, 2017

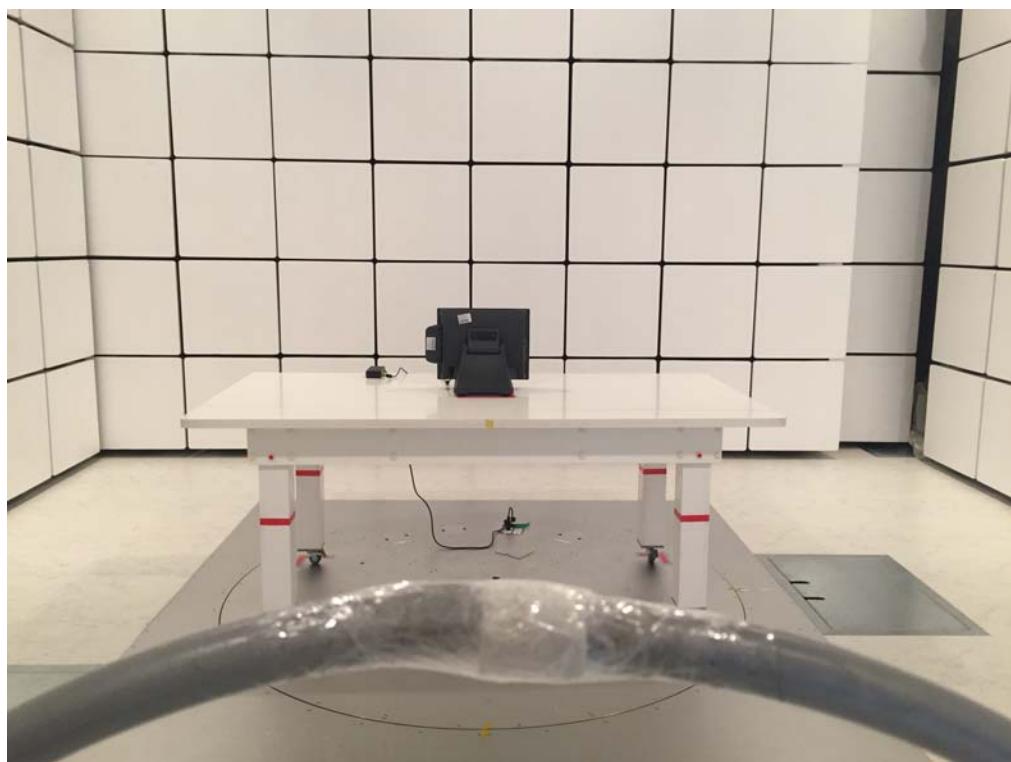
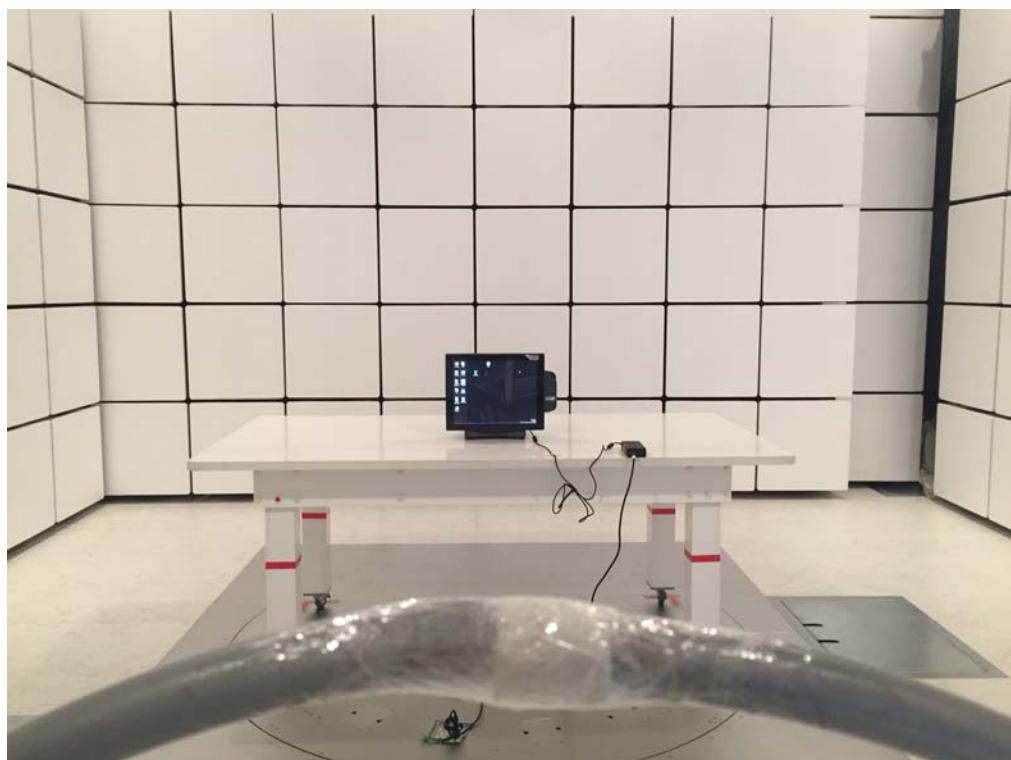
Frequency Stability Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan. 18, 2017

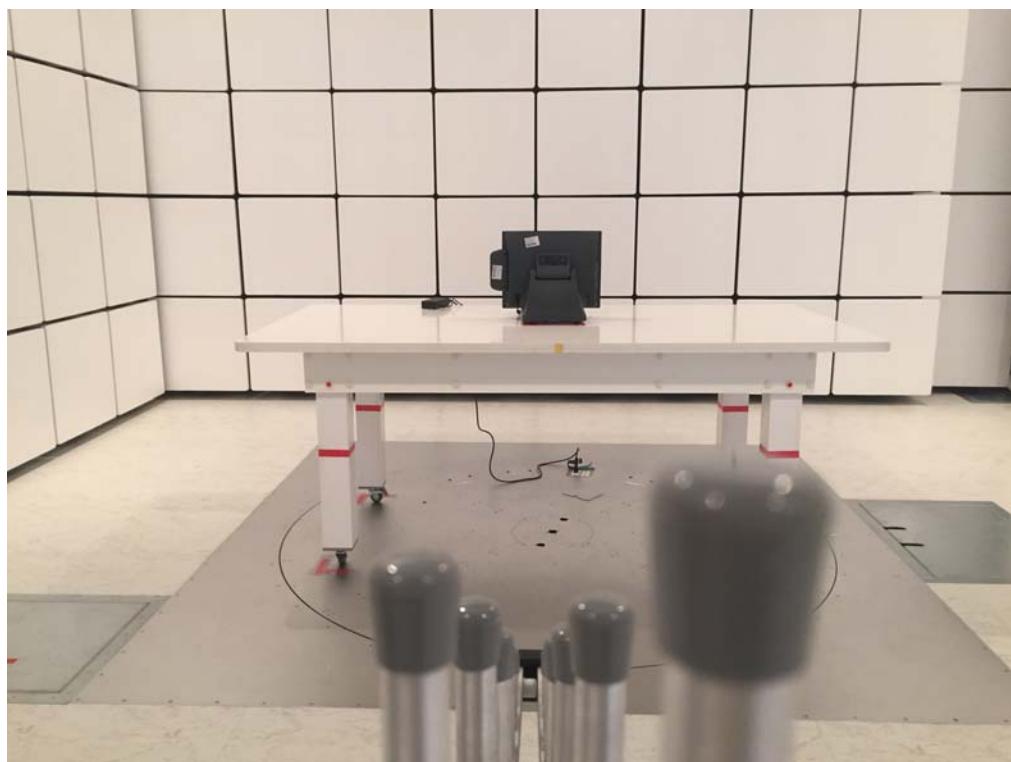
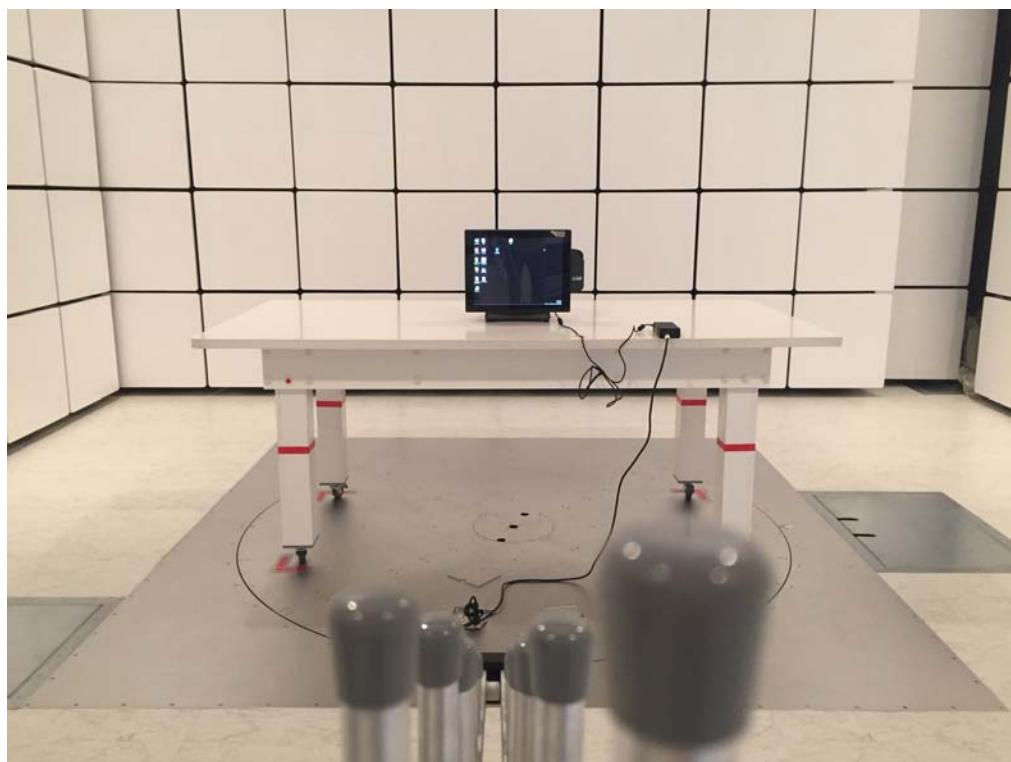
Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan. 18, 2017

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

**9. EUT TEST PHOTO****Conducted emission test photos**

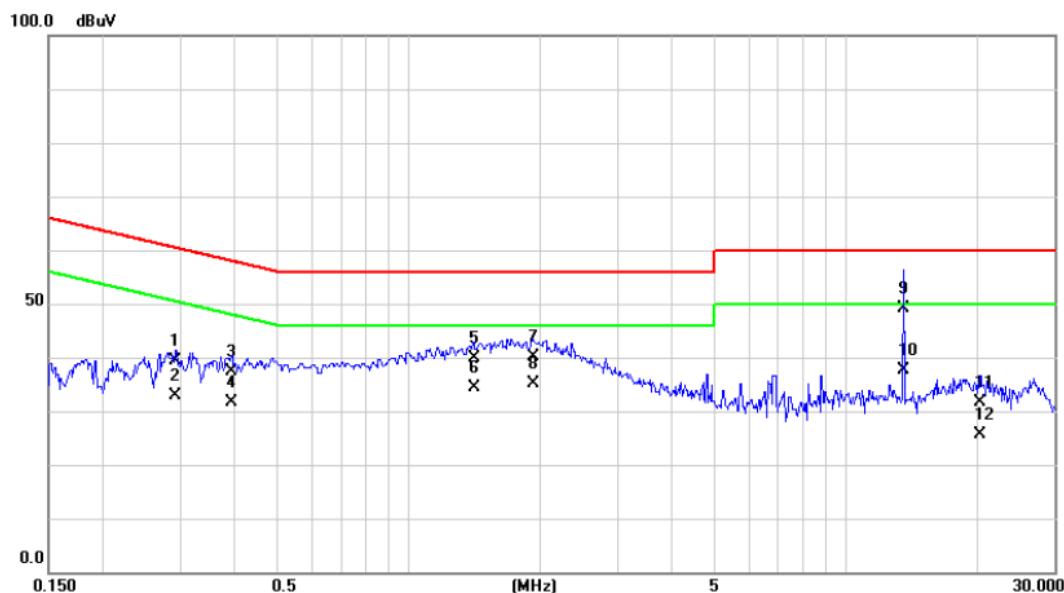
**Radiated emission test photos****9KHz to 30MHz**

**Radiated emission test photos****30MHz to 1000MHz**

## ATTACHMENT A - CONDUCTED EMISSION

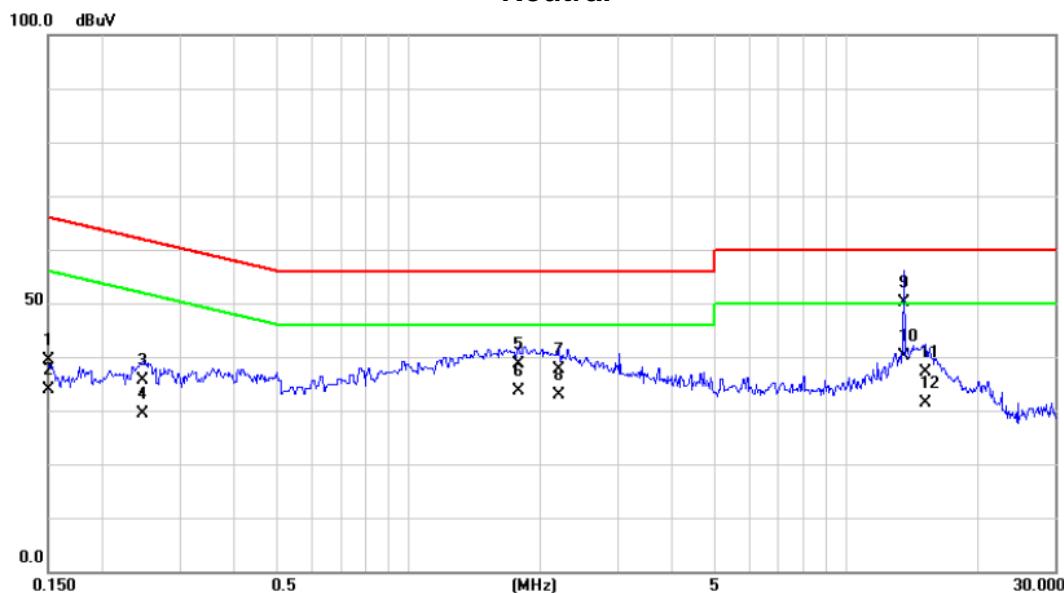
Test Mode : 13.56MHz Transmit

## Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.2928	29.70	9.64	39.34	60.44	-21.10	QP	
2		0.2928	23.30	9.64	32.94	50.44	-17.50	AVG	
3		0.3936	27.80	9.63	37.43	57.99	-20.56	QP	
4		0.3936	22.00	9.63	31.63	47.99	-16.36	AVG	
5		1.4090	30.20	9.69	39.89	56.00	-16.11	QP	
6		1.4090	24.80	9.69	34.49	46.00	-11.51	AVG	
7		1.9220	30.30	9.73	40.03	56.00	-15.97	QP	
8		1.9220	25.50	9.73	35.23	46.00	-10.77	AVG	
9	*	13.5500	39.40	9.84	49.24	60.00	-10.76	QP	
10		13.5500	27.90	9.84	37.74	50.00	-12.26	AVG	
11		20.3000	21.70	9.85	31.55	60.00	-28.45	QP	
12		20.3000	15.90	9.85	25.75	50.00	-24.25	AVG	

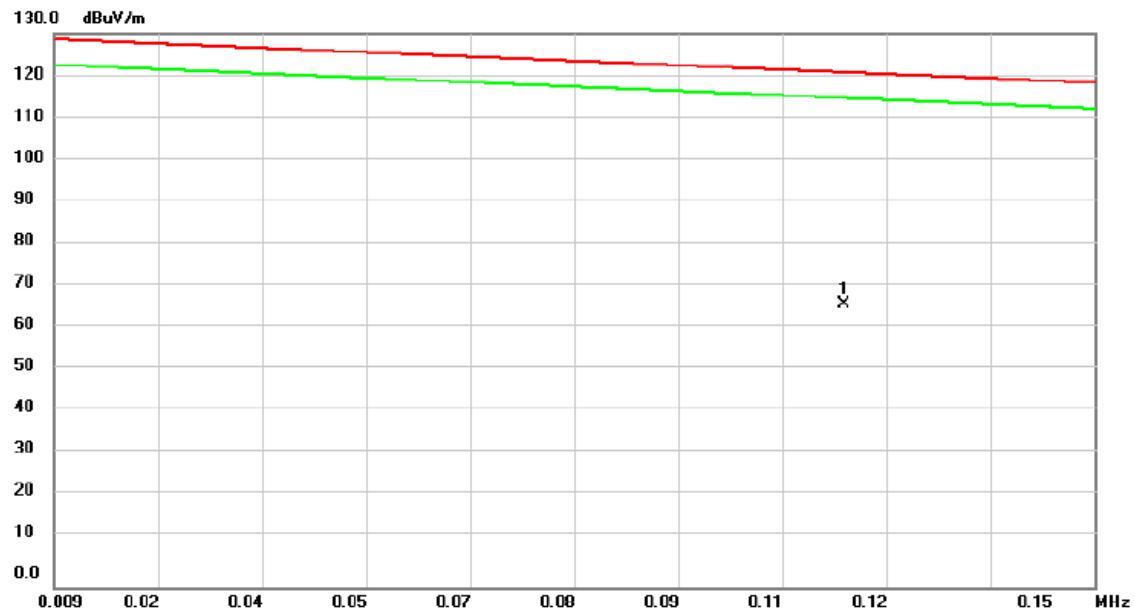
Test Mode : 13.56MHz Transmit

**Neutral**

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
		MHz	dBuV	dB	dBuV	dB			
1		0.1500	29.70	9.63	39.33	66.00	-26.67	QP	
2		0.1500	24.20	9.63	33.83	56.00	-22.17	AVG	
3		0.2473	26.00	9.63	35.63	61.85	-26.22	QP	
4		0.2473	19.80	9.63	29.43	51.85	-22.42	AVG	
5		1.7870	28.80	9.71	38.51	56.00	-17.49	QP	
6		1.7870	23.90	9.71	33.61	46.00	-12.39	AVG	
7		2.2100	27.90	9.73	37.63	56.00	-18.37	QP	
8		2.2100	23.10	9.73	32.83	46.00	-13.17	AVG	
9		13.5500	40.30	9.84	50.14	60.00	-9.86	QP	
10	*	13.5500	30.40	9.84	40.24	50.00	-9.76	AVG	
11		15.1500	27.20	9.82	37.02	60.00	-22.98	QP	
12		15.1500	21.50	9.82	31.32	50.00	-18.68	AVG	

**ATTACHMENT B - RADIATED EMISSION (9KHZ-30MHZ)**

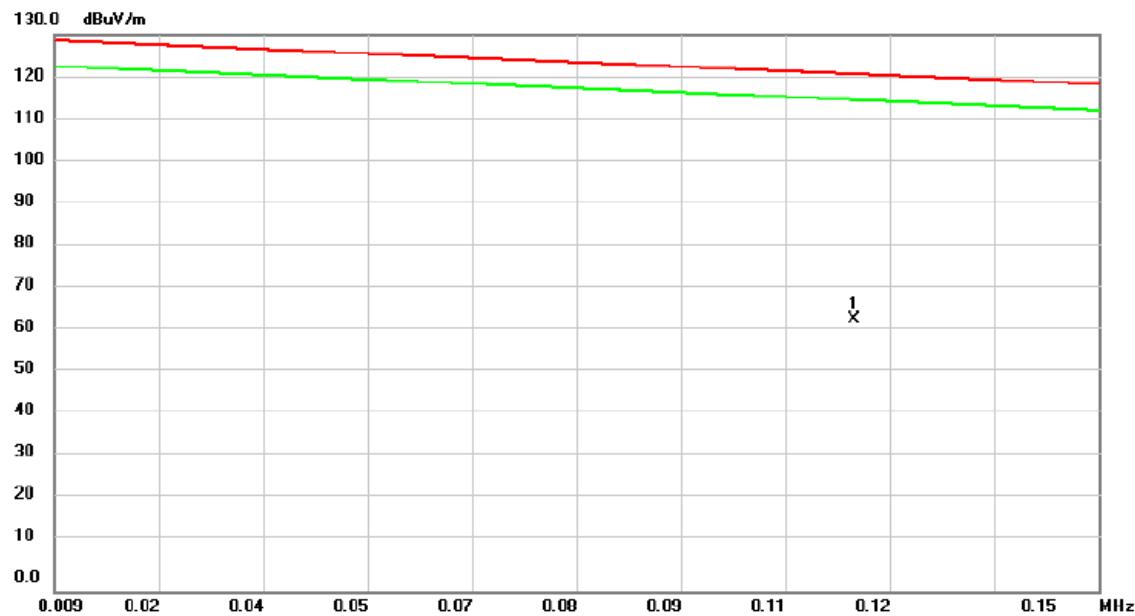
Test Mode: 13.56MHz Transmit \_Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB
1	*	0.1160	54.43	12.08	66.51	120.80	-54.29

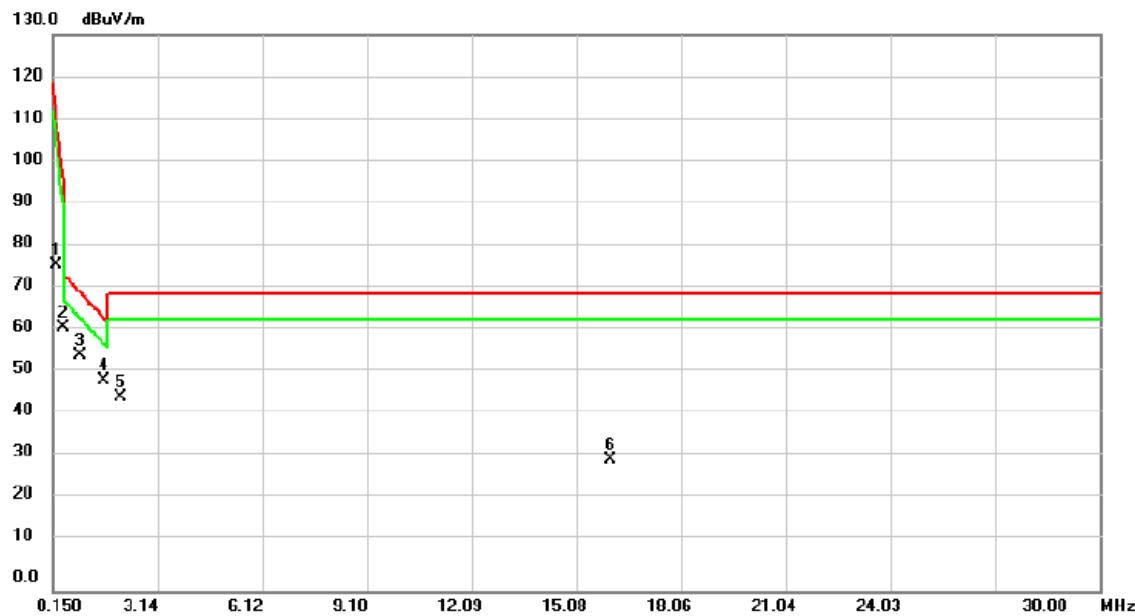
peak

Test Mode: 13.56MHz Transmit \_Close



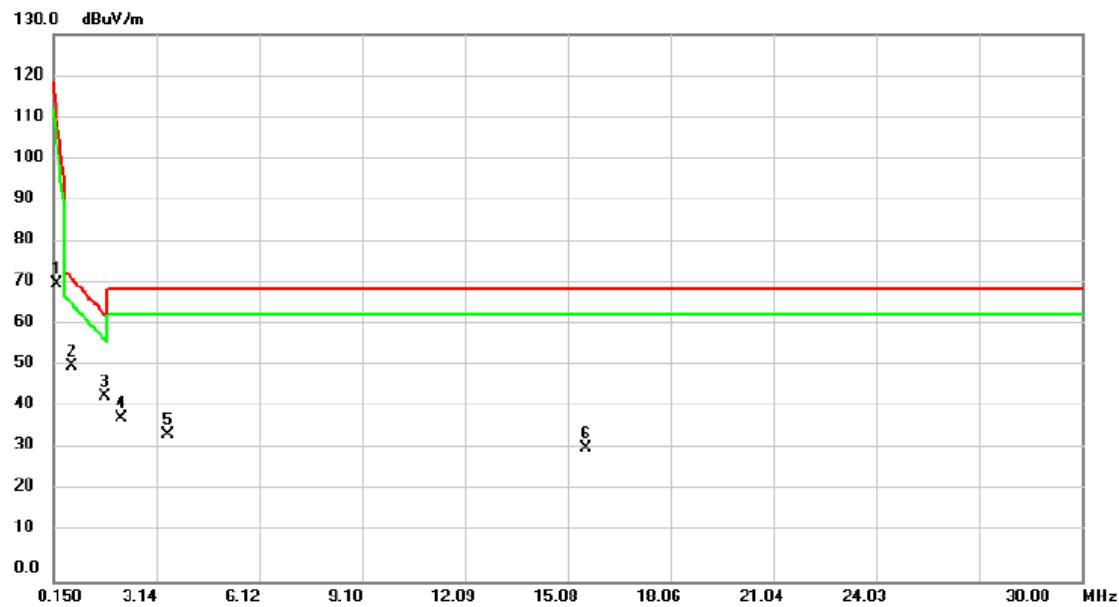
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1	*	0.1170	51.57	12.07	63.64	120.72	-57.08	peak

Test Mode: 13.56MHz Transmit \_Open



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Detector	Comment
			Level	Factor	ment				
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		0.2396	64.26	11.89	76.15	111.87	-35.72	peak	
2		0.4485	49.63	11.80	61.43	96.80	-35.37	peak	
3		0.9261	43.07	11.97	55.04	69.91	-14.87	peak	
4 *		1.6126	37.44	11.72	49.16	63.79	-14.63	peak	
5		2.0903	33.87	11.51	45.38	69.54	-24.16	peak	
6		16.0302	19.60	11.12	30.72	69.54	-38.82	peak	

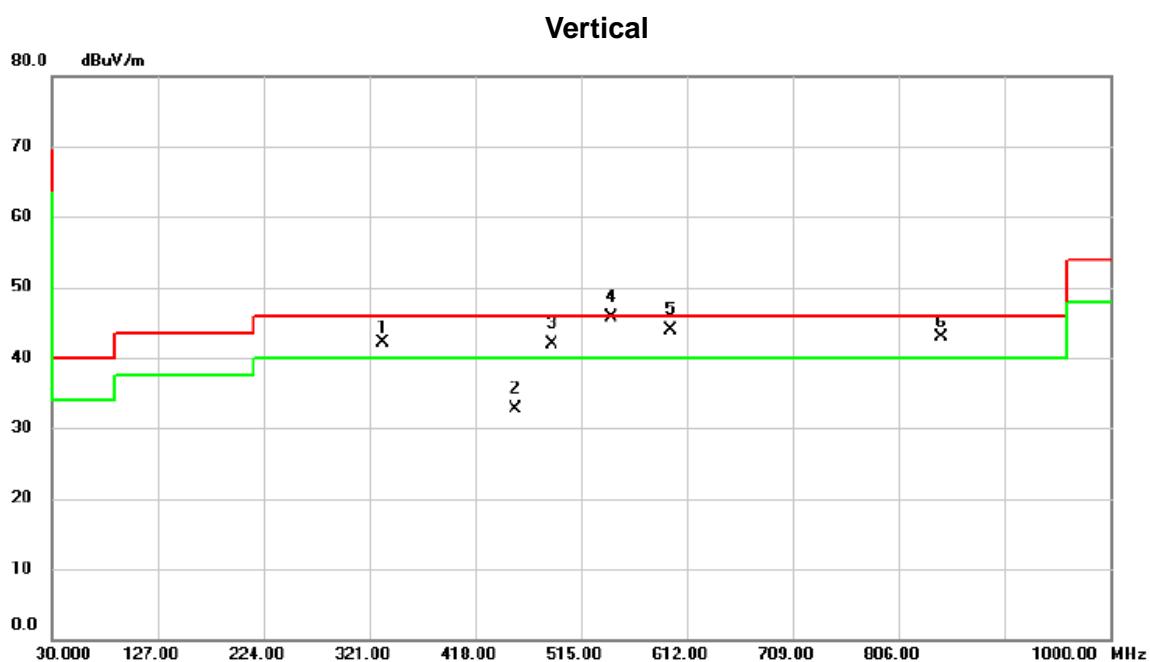
Test Mode: 13.56MHz Transmit \_Close



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Comment
			Level	Factor	ment			
		MHz	dBuV	dB	dBuV/m	dB	Detector	
1		0.2396	58.89	11.89	70.78	111.87	-41.09	peak
2		0.6873	39.46	11.87	51.33	72.04	-20.71	peak
3	*	1.6425	32.17	11.71	43.88	63.53	-19.65	peak
4		2.1200	27.37	11.50	38.87	69.54	-30.67	peak
5		3.4931	23.92	11.17	35.09	69.54	-34.45	peak
6		15.6120	20.60	11.13	31.73	69.54	-37.81	peak

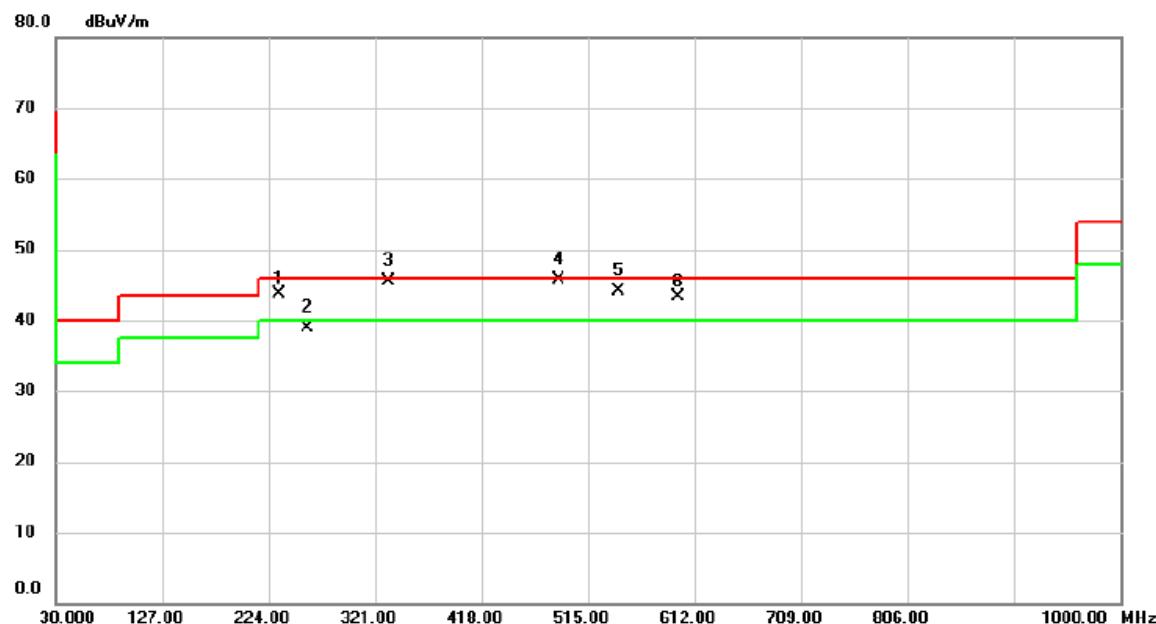
**ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)**

Test Mode: 13.56MHz Transmit



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Detector	Comment
			Level	Factor	ment				
		MHz	dBuV	dB	dBuV/m	dB			
1	!	332.6400	48.99	-6.85	42.14	46.00	-3.86	peak	
2		454.8600	36.40	-3.78	32.62	46.00	-13.38	QP	
3	!	487.8400	45.09	-3.23	41.86	46.00	-4.14	QP	
4	*	542.1600	47.90	-2.11	45.79	46.00	-0.21	QP	
5	!	596.4800	44.65	-0.71	43.94	46.00	-2.06	QP	
6	!	844.8000	39.84	3.05	42.89	46.00	-3.11	peak	

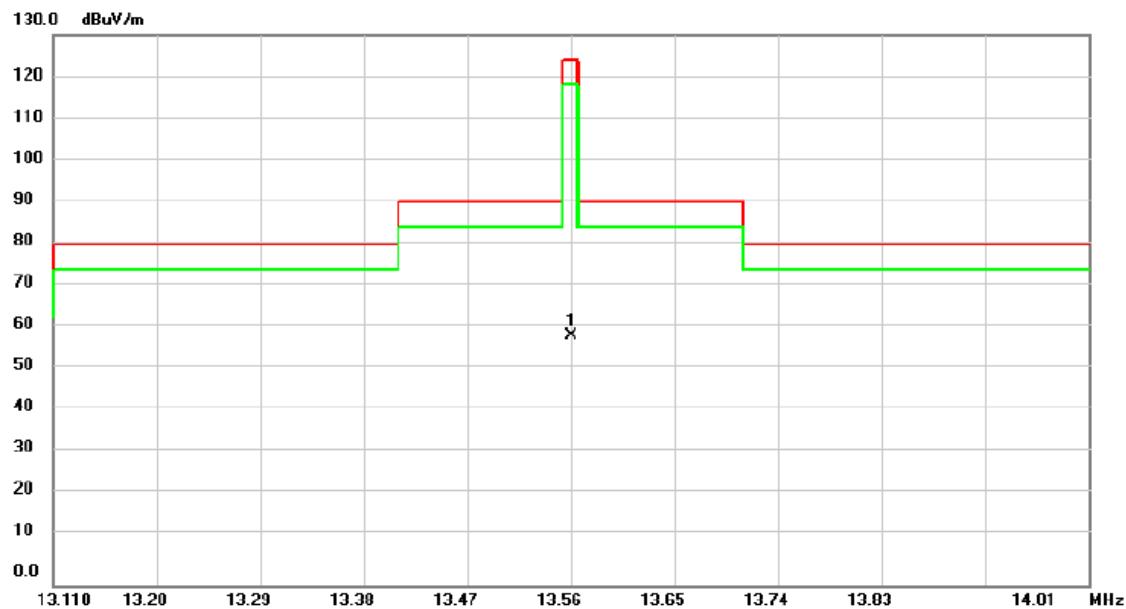
Test Mode: 13.56MHz Transmit

**Horizontal**

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	
			Level	Factor	ment			
		MHz	dBuV	dB	dBuV/m	dB	Detector	Comment
1	!	233.7000	53.80	-10.14	43.66	46.00	-2.34	peak
2		259.8900	47.96	-9.06	38.90	46.00	-7.10	QP
3	!	333.6100	52.28	-6.81	45.47	46.00	-0.53	QP
4	*	487.8400	48.87	-3.23	45.64	46.00	-0.36	QP
5	!	542.1600	46.26	-2.11	44.15	46.00	-1.85	QP
6	!	596.4800	44.03	-0.71	43.32	46.00	-2.68	peak

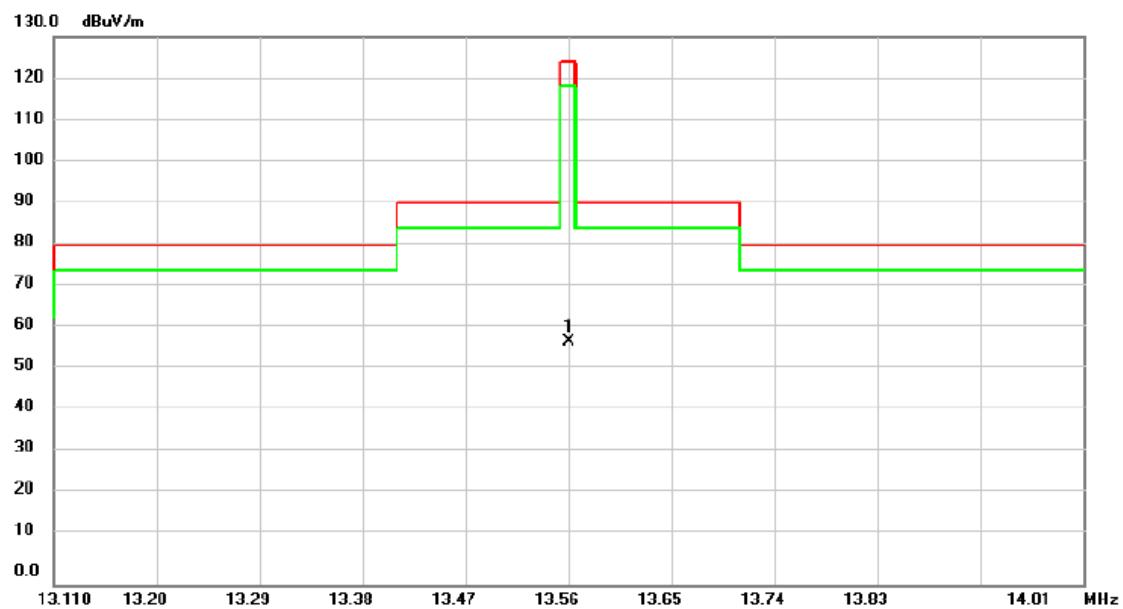
**ATTACHMENT D - RADIATED EMISSION (FCC PART 15.225)**

Test Mode: 13.56MHz Transmit \_Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1	*	13.5600	47.84	11.19	59.03	124.00	-64.97	peak

Test Mode: 13.56MHz Transmit \_Close



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	
			Level	Factor	ment			
		MHz	dBuV	dB	dBuV/m	dB	Detector	Comment
1	*	13.5600	46.40	11.19	57.59	124.00	-66.41	peak

## ATTACHMENT E - FREQUENCY STABILITY MEASUREMENT

Test Mode:	13.56MHz Transmit
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**Frequency Stability Versus Environmental Temperature**

	Temperature (°C)	Voltage (AC)	Frequency (MHz)	Frequency Error (kHz)	Limit (kHz)	Result
	20	120V	13.5599	-	-	-
0 min	50	120V	13.5611	0.0011	+/- 1.356	PASS
	-20	120V	13.5574	-0.0026	+/- 1.356	PASS
2 min	50	120V	13.5613	0.0013	+/- 1.356	PASS
	-20	120V	13.5565	-0.0035	+/- 1.356	PASS
5 min	50	120V	13.5617	0.0017	+/- 1.356	PASS
	-20	120V	13.5556	-0.0044	+/- 1.356	PASS
10 min	50	120V	13.5624	0.0024	+/- 1.356	PASS
	-20	120V	13.554	-0.0060	+/- 1.356	PASS

**Frequency Stability Versus Input Voltage**

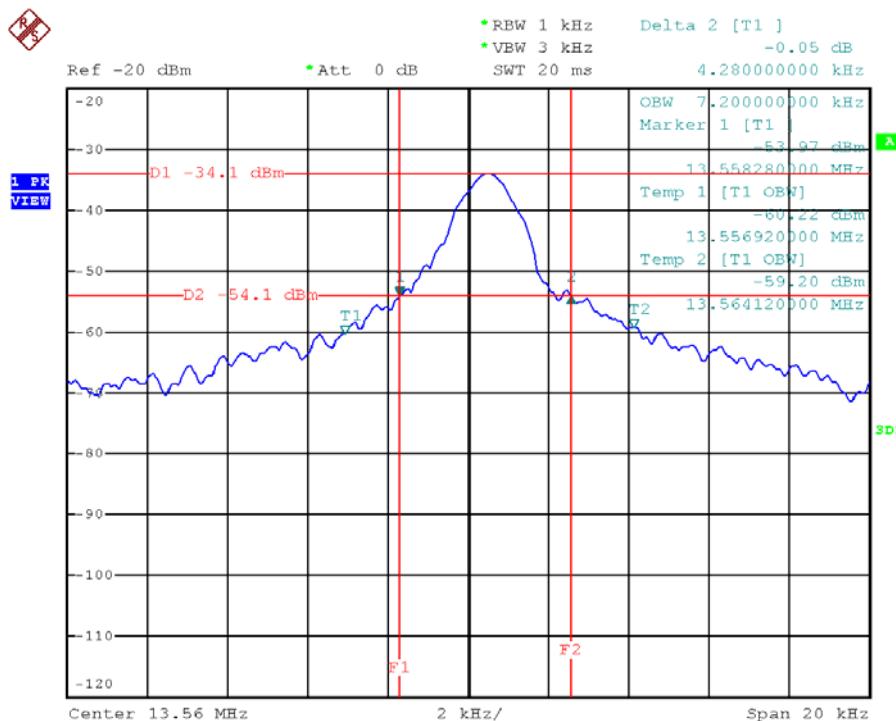
Temperature (°C)	Voltage (AC)		Frequency (MHz)	Frequency Error (kHz)	Limit (kHz)	Result
20	V-nom	120	13.5599	0.0000	-	-
-35	V-min	102	13.5601	-0.0002	+/- 1.356	PASS
85	V-max	138	13.5599	0.0000	+/- 1.356	PASS

## ATTACHMENT F - BANDWIDTH

Test Mode: 13.56MHz Transmit

Frequency (MHz)	20dB Bandwidth (kHz)	99% Occupied BW (kHz)
13.56	4.28	7.20

### TX Mode\_2466 MHz



Date: 5.DEC.2016 16:55:17